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The Public Works Administration allotted \$2,400 for the installation of spray irrigation on experimental plots, repairs to pumping plant including the reconstruction of the pump pit, installation of water stage measuring devices, and the reconstruction and cleaning of experimental drains for the Belle Glade Experiment Station in Florida. B. S. Clayton has commenced construction of these improvements.

T. B. Chambers, who has been engaged on Emergency Conservation work with headquarters at Louisville, Kentucky, has resigned from this Bureau to accept a position with another Governmental agency.

L. C. Tschudy and John G. Sutton have completed the preparation of instructions for the design and construction of small dams for Emergency Conservation Work in North Dakota. These instructions cover earth dams up to a maximum height of 20 feet; masonry dams up to 10 feet in height; and timber crib dams up to 8 feet in height. The paper will be issued shortly in mimeographed form. Mr. Tschudy has spent the past two weeks in Washington working on this report.

On a second visit to the Hooks Farms near Itasca, Texas, the manager, Fred C. Newport informed C. E. Ramser that he had apparently been misunderstood in a former interview and had been misquoted in the statement appearing in the January Monthly News Letter. He stated that strip cropping has been practiced on the Hooks Farms for the past 6 years without any terraces and that it is intended to continue strip cropping even after the land is terraced in order to derive the benefits resulting from both practices of erosion control. An examination of some of the terraces on the Hooks Farms showed that they are spaced further apart than is the usual practice and while they are built amply large and high to control the run-off the wide spacing between the terraces make it particularly desirable to give additional protection against erosion to the land between the terraces by strip cropping.

A cover of woods and brush has demonstrated its effectiveness in reducing run-off and erosion on the Guthrie erosion experiment station. H. S. Riesbol reports that for a three-year period the run-off from a wooded watershed has been only 5.1 percent as much as from a cultivated terraced watershed and the soil loss due to erosion has been only 0.14 percent as large.

Results of experiments showing that soil losses from erosion increase appreciably with an increase in terrace grades on the La Crosse Station substantiates results obtained at the Guthrie and Bethany Stations. According to F. E. Hardisty the soil loss in tons per acre for the year 1933 from a terrace with variable grade of 0 to 6 inches was 7.1 tons, or 11.8 times as much as the 0.6 tons per acre loss from a level terrace and more than 3 1/2 times the 2.0 tons per acre loss from a terrace with variable grade of 0 to 3 inches per 100 feet. The soil loss from an unterraced area for this same year was 31.7 tons of soil per acre.

A. T. Holman reports that three years results indicate that terraces constructed 18 to 24 feet wide and 16 to 22 inches high and properly spaced have had ample capacity to provide for the rather high rates of run-off so far experienced at the Bethany station. Small terraces built 8 to 10 feet wide and 8 to 12 inches high have not been able to remove the run-off from the larger rains and no doubt will be damaged when heavier rains occur.

P. C. McGrew took part in the program of two erosion-control meetings held at Waitsburg and Pomeroy, Wash. on February 28 and March 1. The meetings were planned by the Extension Service for the purpose of instructing the farmers in the best soil erosion practices for that region. About fifty people attended each meeting.

W. W. McLaughlin left Berkeley February 22 for Washington, D. C., stopping at several points en route through the Southwest.

Manuscript for a technical bulletin of the Department on "Policies Governing the Ownership of Return Waters from Irrigation" by Wells A. Hutchins, was submitted to Washington. Return waters from irrigation constitute a large percentage of the total water supply available for further use from many important stream systems; yet the courts have ruled on the question of ownership in only a few States. The present inquiry was undertaken for the purpose of securing information upon the extent of use of return flow for irrigation purposes, the nature of conflicts over the right to its use, its effect upon irrigation development generally, the character and operation of policies governing its control and reuse, and the necessity, if any, for further formulation or modification of policy.

J. C. Marr spent about 4 weeks in Texas, where he made a study of the design and cost of a trunk-line and main drain system for the Lower Rio Grande Valley, in collaboration with the engineering staff of Valley Conservation and Reclamation District. A report was prepared presenting the results of the survey.

Under the title "Water Losses under Natural Conditions from Wet Areas in Southern California," the California Division of Water Resources has just issued its Bulletin 44, which contains, as Part I, about 120 pages of text and tables prepared by H. F. Blaney, C. A. Taylor, A.A. Young, and Harry G. Nickle of the Division of Irrigation, on the subject "Consumptive Use of Water by Native Plants Growing in Moist Areas." The report

gives basic data which may be applied in evaluating water now wasted that might be put to profitable uses.

A progress report was submitted by Leslie Bowen covering investigations carried on during the past 2 years at the Scottsbluff, Nebraska, experiment station by the Division of Irrigation in cooperation with the Division of Western Irrigation Agriculture of the Bureau of Plant Industry. The purpose of the study is to determine the effect, if any, of a scientific crop rotation practice on the amount of irrigation water that is required in practical farming; and the amount of soil moisture resulting from irrigation and natural precipitation that is used by the various crops grown in the rotations.

In connection with the water-spreading project in southern California, A. T. Mitchelson reports that in order to obtain a comparison between percolation through silt deposits and through clean river bed sand, a layer of about 16 inches of sandy silt covering on the Anaheim plot was removed during February. The plot is one of four basins formerly used by the Anaheim Union Water Company to store water underground. Last year our Division operated the plot and obtained figures showing percolation through the silty material. This year about 3,500 cubic yards of material was removed and used to reinforce the banks. A short application of water immediately after the plot was stripped of the silt covering indicated that the percolation rate was increased about six to eight times.

Construction of the experimental tower drier at Jeanerette, La. has been completed by E. D. Gordon, who has made good progress also on the drier shed extension being built from Public Works funds. A start has now been made on the cottage.

Construction has been started at Toledo, Ohio, on a burner for use in Idaho for combating the pea weevil. A 10 to 12-foot strip of peas is to be planted around the border of the pea field about two weeks in advance of planting the regular crop. The border peas naturally blossom first and attract the weevil. By burning the borders it is expected that a sufficiently high mortality of weevils will be produced to effect control. This work is in cooperation with the Bureau of Entomology and the University of Idaho.

A. L. Sharp left Washington on March 16 for Tifton, Georgia, where fertilizer applications will be made immediately in connection with the general fertilizer placement studies with cotton. Tests will be included this season in which the fertilizer will be "bedded on" 10 days in advance of planting, which is a common farm practice. Previously the fertilizer has been applied and the seed have been planted simultaneously. The use of acid fertilizers has increased the acidity of some soils to a point where difficulty is experienced in growing certain crops. Some States are proposing laws to govern the acidity of fertilizers sold. In most of the southeastern cotton experiments, both acid and neutral fertilizers will be applied to obtain information on this phase of the problem.

A national survey of rural electrification has been undertaken by the bureau in cooperation with the Bureau of Home Economics and the Federal Power Commission. The field work is being done as a continuation of the CWA Farm Housing Survey in 27 States. Geo. W. Kable is in charge of the survey for the bureau.

The information being collected is of two types. One consists of the present development of rural electrification, including the lengths and locations of rural distribution lines, customers per mile, utilization of the service, rates, extension policies, and other factors which will aid in the appraisal of present development and suggest possible future procedure. The other is to size up rural territory not now served, to determine the feasibility of further extension of lines. This feasibility will depend on local interest, density of population, probable rural customers other than farms, types of farms, availability of service, charges for current etc. The information will be used as the basis of possible Public Works projects.

A heater test on apples in transit from Wenatchee, Wash. to New York has been completed by W. V. Hukill. After waiting several weeks, the Weather Bureau advised that cold weather might be encountered by leaving Wenatchee on February 17. Accordingly eight test cars were loaded and left on that date. Three days of heater weather were encountered west of Chicago. The test included cars under standard railway service, under inside temperature control, under protection by means of wet sawdust, and cars heated by different types of charcoal heaters in addition to one car with alcohol heater. Wind-operated air-circulating fans were installed in two of the cars to facilitate distribution of temperature in the top and bottom of the loads.

Wallace Ashby reports that about 100 farmhouse plans have been sent to the Washington office by the 18 cooperating states. To date about 20 of these plans have been selected by a committee of agricultural engineers, architects and home economists for the new bulletin which will contain perhaps 35 or 40 plans. The plans have been selected upon their suitability as farmhouses, appearance, and low cost, and range from two to six rooms. The quality of the material and plans sent in is very pleasing and the plans shown in this new bulletin will be superior to anything heretofore available.